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Assistant Chief, Nediterranean Buream

15 June 1948

Chief, FBIB

Your Letter of 2 June re Terminating Units for Mave Antennae

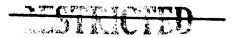
- 1. Procurement of transformers for the Beverage Vave Antennae of all of our new stations has reached an advanced stage. The transformers under procurement are very similar to those you requested per memo dated 3 June 1948.
- 2. The following variations in design are pointed out so that your antennae will be built to match the standard transformers.
  - a. Transformers are built to accommodate a 28 inch spacing of the two wires of the antenna. Fastening the wires on the inside of the pony type insulators mounted on pins spaced 30 inches on the cross arms furnished will give you the desired spacing.
  - b. Pole and cross arm construction should be such as to place the two wires of the wave antenna 16 1/2 feet above the ground level.
  - c. #10 copper wire was assumed in the calculation of the transformer impedances.
  - d. Reflection transformers are included for all wave antennae, whether or not a particular antenna is to be used for uni- or bi-directional reception. Since it is usually difficult to obtain a low resistance ground, particularly where surface conditions are dry and rocky, better overall response from the antenna is experienced when reflection transformers are used. Too often radial grounds become dry and act more like a capacity than a low resistance. The major disadvantages of this are overcome by use of a reflection transformer.
  - e. Ground connections from transfermers to radial grounds will be made by using a piece of RG-12/U cable with appropriate fittings to match Amphenel SZ-1R fitting on the transfermer case. This feature will prevent downleads from acting as omnidirectional antennae to partly nullify directional characteristics of the wave amtenna. The lighting arrestor and transfermer case will be connected to the outer shield of the RG-12/U cabbe and the regular downlead and electrostatic shields will be connected to the inner conductor.
  - f. Each near end transformer case vill be fitted with One End Seal.

    Havy Type RW\_491567 and one threaded stud and cap. For attachment of
    a second end seal, the cap is uncorreved and the end seal attached.

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- g. The line impedance of the transformers under procurement is 750 ohms and the termination impedance is 350 ohms. The impedance of windings for attachment to 20-85/U cable is 75 ohms.
- 5. Ventherproof cases are provided on all transformers. Both reflection and near end transformers have lightning arrestor gaps. The range of the transformers is 200 to 2000 kes.
- 4. In conjunction with this project you are being furnished eight kits (MK-1) for modification of CKB-50279 antenna multicouplers for use on medium and long wave-range 200 to 2000 kcs, impedance 75 ohms.
- 5. Two additional Navy Type RV-A91567 and scale, ten adapters, Navy Type RV-A91650 and fifteen 75 ohm, 2-watt resistors will be shipped as soon as they are procured. This is in addition to the eight reflection transformers and eight mean-end combination transformers (with one and scal each). There may be a considerable delay in delivery of the RV-A91652 adapters as the Navy is out of this item now.

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